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JUDICIAL APPLICATION OF *DAUBERT* TO PSYCHOLOGICAL SYNDROME AND PROFILE EVIDENCE

A Research Note

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The authors present previously unreported results from a nationwide survey ($N = 325$) of state trial judges (S. I. Gatowski et al., 2001) that was conducted pre-*Kumho*. The authors report how the 1993 *Daubert* guidelines were applied to psychological syndrome and profile evidence, and the impact of the decision on the admissibility of such evidence. They found that judges' views of and experience with psychological testimony varied widely and that most judges neither understood nor applied the more technical *Daubert* guidelines, such as falsifiability and error rate, when assessing psychological evidence. Overall, the findings suggest that *Daubert*'s impact on the admissibility of psychological syndrome and profile testimony is negligible and that most judges are more comfortable with pre-*Daubert* standards when this type of testimony is proffered.

Psychological testimony has been controversial since initial efforts to offer such opinions in court (Smith, 1989; Yuille, 1989) and has become even more problematic with the dramatic increase in the use of such testimony (Faust & Ziskin, 1988). The use of psychological syndromes and profiles in courtroom testimony has been problematic for decades, as indicated by a

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proposal for the adoption of specific guidelines regarding this type of evidence more than 20 years ago (see McCormick, 1982). The use of such supposedly scientific constructs in efforts to prove, for example, that a woman has been raped, that someone is a child sex abuser, that a certain member of an ethnic group should not be allowed to fly on an airplane, or that a person should be relieved of responsibility for killing someone, is bound to evoke strong feelings and much controversy.

As a result of the historic 1993 decision *Daubert v. Merrell Dow Pharmaceuticals, Inc*., criticism and controversy concerning psychological syndromes has increased (Richardson, Ginsburg, Gatowski, & Dobbin, 1995). The controversial nature of syndromes and profiles stems largely from their lack of empirical support in the legal and psychological literature (see Faigman, Kaye, Saks, & Sanders, 2002, for a current review). This, coupled with the concern about judicial application of *Daubert*'s more technical guidelines regarding psychological testimony, generated our interest in the research reported here.

A syndrome can be defined as a cluster or pattern of symptoms that appear together in a way that is considered clinically meaningful (Frances, First, & Pincus, 1995). In contrast to diseases, syndromes have no specified temporal course or clear pathological nature. Diseases, on the other hand, have a cluster of signs and symptoms as well as a known pathological quality and temporal course (Feinstein, 1967). A syndrome typically links a set of characteristics to some antecedent event or trauma (e.g., battered woman syndrome or rape trauma syndrome).

The term *profile* has been used interchangeably with the term *syndrome* from time to time, but we distinguish between the two in this article. Whereas syndromes typically refer to a set of common symptoms, affect, thoughts, or behaviors (Frances et al., 1995) that appear to occur together and to be interrelated, profiles are more specific and have a particular use. A profile refers to a set of symptoms and behavioral or physical characteristics associated with specific behavior patterns. A profile is used to predict specific behavioral activity (e.g., child abuser profile, drug courier profile, terrorist profile) or to identify a person engaging in such activity.

Criticisms of the use of psychological syndrome evidence sometimes seem well justified. The derivation of some syndromes and profiles appears political in nature (Faigman, 2000; Freckelton, 1994; Gatowski, Dobbin, Richardson, & Ginsburg, 1997). Moreover, the scientific basis for some claims associated with syndromes is questionable. This includes such well-known syndromes as battered woman syndrome (Berger, 2001; Faigman & Wright, 1997; Freckelton, 1992; Schuller & Vidmar, 1992) and repressed memory syndrome (Berger, 2001; Loftus & Rosenwald, 1997), as well as lesser known syndromes such as “destructive cultism” (Ginsburg & Richardson, 1998; Richardson, 1993; Shapiro, 1977).

Serious questions have been raised, as well, about whether psychological syndromes as a class of evidence can pass muster, given the new emphasis on assessing the scientific credibility of allegedly science-based evidence in the United States (Richardson et al., 1995), a concern that also has spread to other countries (Freckelton, 1994; Odgers & Richardson, 1995; Richardson, 1994). In addition, some judges have ruled that clinically derived evidence, including psychological syndromes, should not have to pass rigorous standards at all, a position that implicitly posits a nonscientific basis for such evidence.[1]

The *Daubert* Decision: A Watershed in Expert Evidence Law

These questions and others were brought to the fore when the United States Supreme Court overturned 70 years of expert evidence law with its potentially revolutionary *Daubert* decision (*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 1993). The far-reaching *Daubert* decision raised a variety of problems, not the least of which was the lack of preparation or grounding of many judges in the basic principles of science and scientific methodology (Dobbin et al., 2002). Not only did *Daubert* overthrow the 1923 *Frye general acceptance* standard, claiming that it was neither necessary nor sufficient in admissibility decisions regarding novel scientific evidence, but *Daubert* also simultaneously affirmed the judge's role as "gatekeeper" as outlined in the 1975 Federal Rules of Evidence to ensure that the evidence is both relevant and reliable. The *Daubert* justices offered four guidelines for judges to use in assessing the evidentiary reliability of the proffered scientific evidence. According to the justices, "evidentiary reliability will be based upon scientific validity" (*Daubert v. Merrell Dow Pharmaceuticals, Inc*., 1993, footnote 9, p. 590). These guidelines were: (a) *falsifiability*, a term derived from the work of Sir Raimund Karl Popper (1902–1994), British philosopher of science, referring to whether a theory has been or can be tested (see Popper, 1959); (b) the "known or potential error rate" associated with application of the theory; (c) whether the findings have been subjected to "peer review and publication"; and (d) the "general acceptance" in the relevant field of the science being offered, which is a reference to the old *Frye* criterion.

Daubert has since given birth to two other controversial and historical cases that are now known as part of the *Daubert trilogy*: *General Electric Co. v. Joiner* (1997) and *Kumho Tire Co. v. Patrick Carmichael* (1999). Contrary to *Daubert*, which held that "the focus, of course, must be solely on principles and methodology, not on the conclusions that they generate" (*Daubert v. Merrell Dow Pharmaceuticals, Inc*., 1993, p. 595), *General Electric Co. v. Joiner*, the second case in the trilogy, pointed out that judges could not ignore the expert's conclusions because ". . . conclusions and methodology are not entirely distinct from one another" (*General Electric Co. v. Joiner,* 1997*,* p. 146). In *Kumho*, decided in 1999, the Supreme Court broadened *Daubert*'s application when it decided that *Daubert*, in accordance with FRE 702 (see *Federal Rules of Evidence for United*

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[1] See the print symposium in the *Arizona State Law Journal* (Spring 2001, vol. 33, no. 1) on a major Arizona case, *Logerquist v. McVey* (2000), relevant to discussions of psychological syndrome evidence. In *Logerquist,* the Arizona Supreme Court vacated a decision to grant a summary judgment motion precluding the presentation of testimony supportive of repressed memory syndrome evidence. The decision is quite critical of *Daubert* and affirms the use of *Frye v. United States* (1923), but states that neither should apply to "experience-based" evidence such as that being proffered to support the plaintiff's claim that she was sexually molested by her pediatrician years before. See commentaries on this and related decisions by David Kaye (2001), Margaret Berger (2001), David Faigman (2001), Paul Giannelli (2001), and Edward Imwinkelried (2001), all major figures in expert evidence law.

States Courts, 1999), did apply to "technical and other specialized knowledge" as well as to scientific evidence by ruling that the guidelines may apply to engineers' testimony as well as to that of other experts who are not scientists (*Kumho Tire Co. v. Carmichael,* 1999, p. 1171). The *Daubert* trilogy also made it clear that the *Daubert* criteria are flexible guidelines, that one or more of the *Daubert* factors, along with other factors and federal rules, may be used in assessing the admissibility of all expert testimony that is scientific, technical, or specialized, and that the use of the guidelines is subject to judicial discretion and an abuse-of-discretion review. However, this flexibility and broadened discretion created several problems specific to syndrome and profile evidence.

Daubert's Application to Psychological Syndrome and Profile Testimony

The more general issues regarding judges' lack of grounding in science and scientific methodology, and the scope of *Daubert*'s guidelines notwithstanding, the *Daubert* decision raised questions about the specific application of its guidelines to social and behavioral science evidence (Richardson et al., 1995), including psychological syndromes and profiles.

First, the decision did not deal directly with syndrome or profile evidence, but instead was based on an assessment of scientific evidence of alleged harm caused by a pharmacological product (i.e., Bendectin). Second, there is no clear statement in *Daubert* about application of the decision to psychological evidence, including syndromes, further questioning the scope of the decision's application.[2] Third, the extent to which psychological syndromes and profiles can withstand scrutiny under the *Daubert* guidelines can be questioned, suggesting the possibility of a veritable revolution in the use of such evidence if *Daubert* guidelines are applied rigorously.

On this third point, there are particular difficulties with psychological syndromes and profiles meeting the falsifiability and error rate guidelines. For example, some syndromes may not be testable at all because of their etiological uncertainty and, especially, the extent to which they are derived from Freudian-based theories (Richardson, 1994; Richardson et al., 1995; Underwager & Wakefield, 1993). The related error rate guideline would be difficult for some psychological syndromes and profiles to meet as well, because if something cannot be tested, there is no basis on which to assess known or potential rates of error. Error rate refers to how many mistakes are made when classifying people on the basis of some particular characteristic. In the *Daubert* decision, the example used to illustrate error rate was spectrographic voice analysis, a controversial method of identifying people by analyzing recordings of their voices or by listening to them speak. Two types of mistakes can be made with such analyses. One, a *false positive*, occurs when someone mistakenly identifies a voice as belonging to a specific person. A second error, a *false negative*, occurs when someone claims that a voice is not that of a specific person when, in fact, it is. It is obvious that the legal consequences of the two types of errors may vary greatly, and both types of mistakes can lead to severe consequences.

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[2] Much is made in *Daubert* of *United States v. Downing* (1985) that included considerable discussion of the assessment of scientific evidence. Because *Downing* dealt with admission of eyewitness testimony, there is at least an implication that the Supreme Court intended that their *Daubert* decision also cover psychological evidence. Note that any questions about the scope of *Daubert* have been superseded by the *Kumho* decision (*Kumho Tire Co. v. Patrick Carmichael,* 1999), which stated unequivocally that a *Daubert* analysis should be done with any proffered expert evidence. *Kumho* was decided just as our data gathering was being completed.

Likewise, can authorities use racial, ethnic, or other profiling in efforts to deter tragic actions such as the hijacking of four U.S. planes on September 11, 2001, and if so, are those profiles effective in identifying the people most likely to hijack a plane? How many mistakes are made when using such profiles, and are they false positives or potentially more dangerous false negatives? The same issues exist for proffered testimony, claims that on the basis of patterned characteristics or symptoms, a woman can be classified as suffering from rape trauma syndrome, or that a young man who participates in a strange or new religious group has, on the basis of his lifestyle and behaviors, been brainwashed or suffers from destructive cultism.

It should be clear from these examples that the falsifiability and error rate guidelines from *Daubert* could pose serious problems for psychological syndrome and profile evidence. In accordance, we felt compelled to include psychological syndrome and profile testimony in any study we conducted of judicial responsiveness to *Daubert*.

Method[3]

Guiding Research Questions

Although there is a considerable amount of scholarship discussing the problematic nature of syndrome and profile evidence, we were interested in whether state trial court judges would actually report problems with experts proffering such evidence post-*Daubert* and, if so, which problems would be reported. Moreover, we were interested in whether judges would report that they applied the *Daubert* guidelines to the decision to admit or reject psychological syndrome and profile evidence and whether the guidelines were applied differentially (e.g., general acceptance but not falsifiability). Or, whether the decision to admit or reject such evidence, in their experience, was based less on the scientific merits of the evidence and more on the legal standards related to the syndrome or profile for the case at hand (i.e., relevance).

The novelty of *Daubert* and the lack of empirical research on the judicial application of *Daubert* to expert testimony at the time the idea for this project was first conceived (1996) made it difficult to develop formal hypotheses. Instead, we addressed the above research questions, along with several others, in a nationwide exploratory survey of trial judges that was designed to yield baseline quantitative and qualitative information germane to those research questions.

Rationale for Selecting Syndromes and Profiles

The psychological syndrome and profile evidence included in this study represented a problematic area of evidence for judges (Faigman, 1995; Freckelton, 1994; Richardson et al., 1995) in terms of admissibility. Such evidence had been construed by the courts as scientific in some cases and as some other form of expertise in others. The questionable scientific merit of such evidence, the different purposes such evidence serves, and the wide variety of experts who have been allowed to testify also have resulted in differential determinations about the nature of such expertise.

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[3] The State Justice Institute, our primary funder, required us to have a national advisory committee, a group that has served us well. We would like to thank Richard Bjur, Joe Cecil, Sheila Jasanoff, Krista Johns, and Thomas Langhorne for their helpful advice and time spent reviewing instrumentation. For detailed information on the survey methodology, please see Dobbin et al. (2001) and Gatowski et al. (2001).

We focused on a number of different types of psychological evidence[4] in order to reflect a variety of courtroom uses of such evidence as well as any potential differences in experience with experts proffering such evidence. Selection of different types of psychological testimony also was necessary to distinguish differences in designations of evidence as scientific, technical, or some other specialized knowledge; to distinguish differences in patterns of admissibility; and to reveal possible differential applications of the *Daubert* factors to such evidence. Included among the syndromes and profiles about which judges were questioned were the following:

> *Syndromes*: battered woman, rape trauma, child sex abuse accommodation, parental alienation, repressed memory, posttraumatic stress disorder.[5]
>
> *Profiles*: battering parent, gang member, drug courier, battering spouse, sexual predator, child abuser.

We also asked open-ended questions that allowed judges to discuss other syndromes and profiles with which they had had experience as well as other psychological testimony they had encountered, including other *Diagnostic and Statistical Manual* (*DSM-IV*; American Psychiatric Association, 1994) disorders.

The Survey Instrument

Draft survey instruments were pretested on focus groups of judges attending classes at The National Judicial College and the Judicial Studies Program at the University of Nevada, Reno. The final survey instrument consisted of two parts: a structured telephone interview and a mailed questionnaire. Part I of the survey instrument was always conducted by telephone and focused mainly on the standard of admissibility used in the state, the use and application of the admissibility criteria specifically outlined in *Daubert*, and general perceptions of the decision's impact (see Gatowski et al., 2001, for Part I results). Surveys were completed in 1998 and early 1999, and an empirically derived codebook was used by trained research assistants to code the surveys. Twenty-five percent of the surveys were check-coded, and disagreements were settled by a third check coder (see Dobbin & Gatowski, 1999, for discussion of coding process).

At the end of Part I of the interview, judges were given the option of completing Part II of the survey by telephone or having it sent to them by mail (see Dobbin et al., 2001, for example segments from the mail survey). The general topic areas of Part II were (a) judges' level of experience with scientific evidence (e.g., DNA, epidemiology, and specific types of psychological evidence, including psychological syndromes and profiles), (b) the frequency of admissibility of syndrome and profile evidence, and (c) judges' techniques for managing scientific evidence proffered in their courts (Gatowski et al., 2000). Highly trained graduate and undergraduate students conducted interviews, and all interviews were supervised. In this article, we focus on the judicial application of *Daubert* to the psychological syndrome and profile evidence included in the survey instrument.

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[4] We also assessed judges' experience with the insanity defense, the prediction of future dangerousness, and eyewitness testimony. However, those subareas of psychological testimony are not directly germane to the focus of this article and are not presented here.

[5] We realize that PTSD may not seem to fit this listing of psychological syndromes because it has received considerable attention, and some have even claimed that, unlike other psychological syndromes, PTSD meets all *Daubert* criteria (Garcia-Rill & Beecher-Monas, 2001; but see Grove & Barden, 1999, for a contrary view). Also, PTSD serves as the theoretical and empirical underpinning for some other items in our list, such as rape trauma syndrome (Dobbin & Gatowski, 1998). However, we decided to include PTSD as a separate item in this area because it is relatively well known and often referred to in legal contexts. The inclusion of PTSD in the *DSM-III* was a social and political process (Scott, 1990), and efforts to overgeneralize PTSD to cover some other syndromes not mentioned explicitly in the *DSM* (such as destructive cultism, see Ginsburg & Richardson, 1998; Richardson, 1993) raise serious questions about some uses of PTSD in the courtroom.

Survey Sample

The sample was a national, multistage, representative sample of state trial court judges (see Dobbin et al., 2001, p. 300, footnote 19). The sampling frame, which consisted of a list of 9,715 judges' names from all 50 states and the District of Columbia, was developed using the 1997–1998 edition of *The American Bench*. A total of 400 of 564 eligible judges drawn from the sampling frame completed Part I of the survey instrument (71%), and 325 of those 400 judges completed Part II of the survey, with a response rate of 81% of the 400 who had completed Part I. Of those 325 judges who completed Part II, most chose to do so by mail (85%, or 276 of 325). In this article, we focus on the smaller sample ($N = 325$). Of these 325 state trial judges who completed Part II, 52.3% ($n = 170$) reported that they were essentially *Daubert* states; that is, their state followed *Daubert* and FRE 702 directly or some FRE 702 hybrid (*Federal Rules of Evidence for United States Courts*, 1999), whereas the other 47.7% ($n = 155$) reported that they followed *Frye v. United States* (1923) or some hybrid of *Frye* (e.g., *Kelly–Frye* in California; *People v. Kelly,* 1976). As with Part I of the data reported in Gatowski et al. (2001), there were few significant differences between *Daubert* and non-*Daubert* states with respect to the admissibility of psychological syndromes and profiles; thus, with some exceptions noted below, all data reported here have been collapsed.

Results

In the following sections, we report previously unpublished results relating specifically to state trial court judges' experience with syndrome and profile evidence. Judges were asked about the amount of previous courtroom experience they had had with specific syndromes and profiles as well as with syndrome and profile evidence generally. For those 325 judges who completed Part II of the survey either by phone or by mail, the definitions of each specific form of evidence were given as part of the question. Of these 325 judges, there were 318 who provided codable answers to the question regarding experience with syndromes generally and 321 who provided codable answers to the question about profile experience generally. On a six-point scale in which 0 equals *no experience* and 5 equals *a great deal of experience*, judges in *Daubert* states claimed slightly more experience with syndromes ($M = 2.50$, $SD = 1.59$; $n = 165$) than did judges in non-*Daubert* states ($M = 2.07$, $SD = 1.52$; $n = 153$); this is a significant difference, $t(316) = 2.46$, $p < .05$. A similar significant finding, $t(319) = 2.09$, $p < .05$, was found with profiles, with respondents from *Daubert* states more likely to claim experience with profiles ($M = 2.15$, $SD = 1.67$; $n = 168$) than were those judge-respondents from non-*Daubert* states ($M = 1.78$, $SD = 1.56$; $n = 153$). However, there were no significant differences in terms of experience with any of the specific syndromes or profiles.

Most (80%, $n = 260$) of the 325 judges who completed Part II of the survey reported at least "some" exposure to psychological syndrome evidence during their time on the bench, and of those 260, more than one quarter (28%, $n = 73$) reported "a great deal" of experience. Most judges (74% of 240) also reported at least "some" experience with psychological profile evidence in their courtrooms, of whom 26% ($n = 63$ of 240) reported "a great deal" of experience.

Experience With Specific Syndromes and Profiles

We first asked the 260 judges (80%) who had reported at least some experience with psychological syndromes generally how much experience they had had with certain specific syndromes and profiles, on a scale from 0 to 5, with 0 being *no experience* and 5 being *a great deal of experience*. Table 1 presents these results in percentages.

More than half of these 260 judges reported zero courtroom experience with parental alienation syndrome (55%) and repressed memory syndrome (53%). In contrast, more than two thirds of the judges reported at least "some" experience (1 or greater on the 0–5 scale) with posttraumatic stress disorder (PTSD; 79%), battered woman syndrome (78%), child sex abuse accommodation syndrome (75%), and rape trauma syndrome (64%). In addition, more than one third claimed "moderate" or greater experience (3 or more on the 0–5 scale) with each of these same syndromes. For example, 36% (93 of 260) claimed to have moderate courtroom experience (3 or greater) with child sex abuse accommodation syndrome. Judges reported seeing child sex abuse accommodation syndrome more frequently than repressed memory syndrome in abuse cases, with 75% of judges claiming "some" experience (between 1–5 on the scale) with child sex abuse accommodation syndrome, compared with 41% claiming "some" experience with repressed memory syndrome.

We also asked the 240 judges (74% of 325) who had indicated prior experience with psychological profiles to report how much experience they had had with specific profiles in their courtrooms. Table 2 displays these results.

Note that 29% (69 of 240) of the judges reported that they had had at least "moderate" experience with the child abuser profile (again, 3 or greater on a scale of 0–5) compared with only 10% (23 of 240) of the judges with the battering parent profile, 12% (28 of 240) of the judges with the gang member profile, and 12% of the judges with drug courier profile (29 of 240). As was the case with syndromes, profiles also appear relatively frequently as evidence in child abuse cases.

Table 1
Percentages Indicating Experience with Specific Syndromes (N = 260)

	Psychological syndrome experience rating						
Syndrome name	0	1	2	3	4	5	NA
Battered woman	17	28	17	19	8	6	5
Rape trauma	29	24	16	15	6	3	7
Child sex abuse accommodation	20	19	20	18	11	7	5
Parental alienation	55	15	8	8	5	3	7
Repressed memory	53	26	9	6	0	0	6
Posttraumatic stress disorder	15	25	17	20	12	5	5

Note. 0 = no experience; 5 = a great deal of experience; NA = not ascertained.

Table 2
Percentages Indicating Experience with Specific Profiles (N = 240)

	Psychological profile experience rating						
Profile name	0	1	2	3	4	5	NA
Battering parent	50	15	10	6	3	1	15
Gang member	48	19	7	8	2	1	15
Drug courier	48	15	11	6	5	2	14
Battering spouse	30	18	15	12	5	5	15
Sexual predator	32	16	18	13	5	3	13
Child abuser	24	21	13	16	8	5	13

Note. The percentages for gang member profile and drug courier profile for experience ratings of 3, 4, or 5 are reported in the text above as 12% for each, whereas the table reports these percentages as 11% for gang member profile and 13% for drug courier profile. This difference is due to rounding error. 0 = no experience; 5 = a great deal of experience; NA = not ascertained.

We asked judges who had had experience with the proffering of syndrome evidence in their courtrooms about their experience with syndromes other than those we mentioned, and 45 (17% of the 260 indicating previous experience with syndromes) said that they had had such experience, mentioning at least one additional syndrome across all four mentions.[6] However, of those 45 judges, a variety of syndromes were mentioned, the highest response being "factitious disorders" (e.g., Munchausen syndrome, malingering, or somatoform disorders), which led, with only 8 judges mentioning it. When we asked a similar question about experience with other profiles, only 32 respondents (13% of the 240 indicating previous experience with profiles) indicated yes, with the highest frequency being coded as "other *DSM* derived disorders," mentioned by 6 of the 32.

Types of Cases in Which Syndromes and Profiles Are Proffered

We followed by asking about the most common type of case, in their experience, in which psychological syndrome evidence is proffered. Of the 260 judges who had indicated prior experience with psychological syndromes, 225 (87%) gave codable answers to this question. The answers yielded more than a dozen different types of cases, with a broad category, "battered woman syndrome/ spouse abuse/domestic violence," being mentioned by 18% and child sexual abuse or molestation being mentioned by 15%.

Analogously, we asked the 240 judges who claimed prior experience with profiles about the type of case in which psychological profile evidence was most commonly proffered. Of the 169 (70%) who gave at least one codable response, the top five were (a) child abuse (not including sexual abuse), which was the most frequently mentioned with 29 (17%); (b) drug trafficking cases, with 21 (12%); (c) spouse abuse and domestic violence cases, with 21 (12%); (d) criminal cases generally (excluding homicide and rape), with 19 (11%); and (e) divorce and child custody, with 14 (8%).

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[6] Judges could endorse more than one response to some open-ended questions. Thus, the first four mentions were coded for these and other questions (i.e., those questions in which we report more than one mention).

How Often Are Syndromes and Profiles Admitted?

We asked the 260 judges who had reported experience with syndromes in their courtrooms for the percentage of cases in which admissibility of syndromes was an issue but in which the evidence was eventually admitted. Of the 213 (82%) judges who gave codable answers to this question, quite a few (41%, or 88 of the 213) reported that in all cases in which psychological syndrome evidence was at issue, such evidence was eventually admitted. Eleven percent of the judges (n = 23) reported that such evidence was admitted 75% of the time, and 10% of the judges (n = 22) noted that it was admitted 90% of the time.

A similar pattern emerged with psychological profiles. Of cases in which profile evidence was at issue but still admitted, the most common response was that it was admitted in all cases (36%, or 58 of 162 codable responses), whereas another 26 judges (16%) said it was admitted in 50% of the cases, and 14 more (9%) reported that it was admitted in 90% of cases.

Factors Considered in Admissibility Decisions for Syndromes and Profiles

We asked in an open-ended format what factors these 260 judges, all of whom had reported experience with psychological syndromes in the courtroom, considered when determining admissibility of syndrome evidence. We coded up to four answers mentioned for each respondent. Eighty-three percent (216 of 260) mentioned at least one codable factor, and 61% (158 of 260) mentioned two or more. Among the factors mentioned first by the judges in their answers, "qualifications of the expert" (e.g., experience, education, or training) led, with 63 of the 216 judges (29%) indicating that they considered this factor. General acceptance was the next most frequent "first mention," with 34 judges (16%). Third in first mentions was "relevance or foundational issues," with 29 judges (13%). When determining the admissibility of syndrome evidence, only one judge mentioned falsifiability first, before any other factors, and no judge mentioned error rate or peer review and publication first. Five judges (2%), though, did mention "all *Daubert* criteria," and 8 judges (4%) said that reliability should be considered. Thus, the two more technical *Daubert* guidelines (falsifiability and error rate) were almost never given as a first response to this question, whereas the more familiar factors of expert qualifications and general acceptance were given often.

When examining all four mentions, one finds that the pattern is similar, and the top four mentions were (a) "qualifications of the expert," which was mentioned in response to this question by 104 judges (48% of 216 who provided codable responses), and by another 23 (10%) who mentioned the credibility and other characteristics of the expert; (b) responses coded as "relevance and foundational issues," given by 63 judges (29%); (c) general acceptance, mentioned by 54 judges (25%); and (d) reliability generally, mentioned by another 24 judges (11%), whereas 16 judges (7%) mentioned peer review and publication, only 1 judge mentioned error rate, and only 2 judges mentioned falsifiability. Finally, 8 judges (4%) mentioned "all *Daubert* criteria."

We also asked the 240 judges claiming experience with profile evidence in their courtrooms what factors they considered when evaluating profile evidence. One hundred and sixty-seven gave codable responses to this question. Among the factors mentioned first, qualifications of the expert led, with 35 judges (21%), followed by 31 (19%) who cited relevance or foundational issues, 17 (10%) who cited reliability, and 14 (9%) who cited general acceptance.

When all mentions were examined, the top four mentions were identical to those mentioned for syndromes with (a) 62 judges (37% of 167) citing qualifications of the expert; (b) 50 judges (30%) mentioning relevance or foundational requirements; (c) 34 judges (20%) mentioning general acceptance; and (d) 28 judges (17%) citing reliability generally. Again, these findings across multiple mentions patterned the findings above for syndromes.

Problematic Aspects of Syndromes

Next we asked the 260 judges with syndrome experience to identify, on the basis of their personal courtroom experience, what aspect of psychological syndrome evidence is most problematic in determining its admissibility. Again, we coded the first four mentions, with the following results: 203 judges (78%) gave at least one codable response, 83 (32% of the 260) gave two, 31 (12%) gave three, and 10 (5%) gave four. Specific responses were quite low in frequency, but leading the top five in first mentions were (a) qualifications of the expert, with 18 (9% of 203), followed by (b) reliability, with 17 (8%); (c) relevance and foundational issues, with 15 (7%); (d) general acceptance, with 14 (7%); and (e) application of theories to a specific case, with 14 (7%).

When multiple responses were examined for these same 203 judges, a similar pattern was revealed: relatively low frequencies, with little mention of any *Daubert* guidelines except general acceptance, with 18 judges (9%) mentioning it. Only one judge mentioned “all *Daubert* criteria,” and falsifiability and peer review and publication received only three mentions each. Other multiple response categories with higher frequencies of mentions were relevance and/or foundational issues, with 26 judges (13%); qualifications of the expert, with 23 judges (11%); application of theories to specific cases, with 23 judges (11%); reliability, with 22 judges (11%); and subjectivity of diagnostic process, with 22 judges (11%).

We also asked whether any particular syndromes had been found to be persistently problematic when determining their admissibility, and 71 (27 %) of the 260 judges with previous experience said yes. We asked which ones were problematic, coding up to four mentions, with the following top five receiving the highest frequencies over all four possible mentions: (a) “all” (*n* = 17 of 71, or 24%), (b) repressed memory syndrome (*n* = 13, or 18%), (c) child sexual abuse accommodation syndrome (*n* = 11, or 16%), (d) posttraumatic stress disorder (*n* = 11, or 16%), and (e) battered woman syndrome (*n* = 8, or 11%). Reasons given for the syndromes being problematic were varied. The three most frequent over four mentions were “subjectivity of the diagnostic process,” indicated by 14 judges (20%); “problems with underlying theories for the syndrome,” mentioned by 9 judges (13%); and “reliability problems,” noted by 8 judges (11%).

Problematic Aspects of Profiles

When the 240 judges with prior experience with profiles were asked what aspects of profiles they found most problematic when determining admissibility, we obtained the following results: 157 judges (65%) mentioned at least one codable answer. The top five first mentions included (a) 20 judges (13% of 157) referring to relevance or foundational issues, (b) 14 judges (9%) referring to the subjectivity of the diagnostic process, (c) 12 judges (8%) citing reliability problems, (d) 10 judges (6%) citing qualifications of the expert, and (e) 9 judges (6%) claiming problems with the application of general procedures and theory to a specific case.

On examination, only slight differences were noted in judges' reasons as to why these profiles were most problematic. Of those 157 judges who gave codable answers, the most frequent responses were coded as (a) relevance and/or foundational issues ($n = 29$, or 19%), (b) application of general procedures and/or theories to this specific case ($n = 22$, or 14%), (c) subjectivity of the diagnostic process and/or reliance on clinical judgment ($n = 19$, or 12%), (d) reliability ($n = 15$, or 10%), and (e) qualifications of the expert witness ($n = 11$, or 7%).

When the 240 judges with previous experience with profiles were asked whether any profiles were persistently problematic, 54 judges (23%) said yes. Higher frequency first mentions included 18 of the 54 (33%) who said that all were persistently problematic, followed by battering spouse profile, cited by 7 judges (13%), and a number of others with fewer mentions. Multiple responses over all four coded mentions revealed 19 of the 54 judges (35%) claiming that all profiles were persistently problematic, 9 (17%) who said that battering spouse profile was problematic, and 7 (13%) who reported drug courier profile as problematic. When asked specifically what caused the profiles to be problematic when determining admissibility, "subjectivity of the diagnostic process" received the most mentions ($n = 11$ of 54, or 20%) in a long list of low-frequency items. This was followed by "lack of relevance or foundation" ($n = 9$, or 17%) and "problems with underlying theories of profiles, generally" ($n = 7$, or 13%).

Nonproblematic Syndromes and Profiles

We asked the 260 judges with prior experience with syndrome evidence whether they had found some psychological syndromes that came before their court unproblematic from an admissibility standpoint. We asked a similar question of the 240 judges who reported prior experience with profiles. Very few judges who reported having prior experience found syndrome and profile evidence to be unproblematic with respect to admissibility. In fact, the large majority reported having experienced problems with one or more syndromes or profiles (73% of 260 and 63% of 240, respectively). Also, very few reported having experienced no problems with any syndromes or profiles (2% of 260 and 3% of 240, respectively).

Discussion

Our results reveal a strong tendency for judges to continue to rely on more traditional standards such as general acceptance and qualifications of the expert when assessing psychological syndrome and profile evidence. Similar findings with respect to other types of evidence have been noted in other research (Dixon & Gill, 2002; Gatowski et al., 2001; Groscup, Penrod, Studebaker, Huss, & O'Neil, 2002; Krafka, Dunn, Johnson, Cecil, & Miletich, 2002; Richardson et al., 1998; Shuman & Sales, 1999; Slobogin, 1999), and this probably reflects judges' relative unfamiliarity with the technical concepts of falsifiability and error rates (Dobbin et al., 2002; Gatowski et al., 2001; Kovera & McAuliff, 2000) or the relative lack of precedents with respect to syndrome and profile evidence in this first decade post-*Daubert*.

We are not proposing that judges become scientists but only that they be trained to ask relevant questions when determining the admissibility of proffered scientific evidence. Training opportunities to improve judges' understanding of science do exist (Merlino, Dillehay, Dahir, & Maxwell, 2001, 2003[7]), as do a number of recent publications designed to assist judges in understanding science and scientific concepts (see Dobbin & Gatowski, 1999; Dobbin et al., 2002; Faigman et al., 2002; Federal Judicial Center, 2000). There is obviously much remediation needed before most judges become trained to handle decisions concerning proffered scientifically based expert testimony.

The respondents in our representative national sample of state trial court judges showed considerable experience with psychological evidence, but they were not completely clear as to whether to classify such evidence as technical or scientific or what criteria to apply when assessing it (Gatowski et al., 2001). When asked what factors they would consider when assessing psychological syndrome and profile evidence, respondents tended to revert to the legal use of the pre-*Daubert* standards (i.e., qualifications of the expert, relevance, and general acceptance, as determined by case precedent, as well as wide acceptance in the relevant scientific field) more often than reliability generally, and to ignore the newer *Daubert* guidelines of falsifiability and error rate that were intended by the *Daubert* court to be measures of scientific validity. This finding is similar to that found by both Dixon and Gill (2002) and Krafka et al. (2002).[8] This tendency, although understandable, given the levels of scientific training of most judges, means that most psychological evidence is probably not evaluated as products of science. Opinions may differ on the implications of this outcome, which has unfortunate consequences for the conduct of justice.

Judges reported considerable differences in experience with profiles and syndromes and with the several specific profiles and syndromes about which they were asked. With regard to syndromes, posttraumatic stress disorder and battered woman syndrome were the two garnering the most claims for experience (83%–85%), followed closely by child sex abuse accommodation syndrome (about 80%). In contrast, parental alienation syndrome and even repressed memory syndrome, despite considerable media attention in recent years, had been encountered by less than half of our respondents. In light of *Daubert*, the finding that judges are seeing child sex abuse accommodation syndrome more often than repressed memory syndrome might shed light on what judges consider scientific, especially because neither seems to meet the falsifiability guideline (see Richardson et al., 1995, pp. 13–14, for further discussion on these two syndromes).

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[7] This report, prepared for the Federal Judicial Center, presents results of a national survey of all judicial education courses focusing on teaching judges more about scientific evidence and scientific methodology. The study revealed a large number of such training opportunities for judges. It is available at www.unr.edu/justicestudies/JudicialSciencePrograms.pdf.

[8] However, Dixon and Gill (2002), in their study of federal judges and civil cases, found that judges paid increasing attention to reliability and all *Daubert* factors over time, but the general acceptance factor was the only *Daubert* factor that remained significantly higher. Overall, judges relied on reliability, relevance, qualifications of the expert, and other considerations (e.g., clarity and coherence of the expert's explanation). Krafka et al. (2002), in their 1998 study of federal judges, also found that judges tended to invoke the *Daubert* guidelines rarely. Instead, federal judges considered relevance (47%), qualifications of the expert (42%), and helpfulness to the trier of fact (40%) most often when excluding expert testimony.

Our sample of judges reported less experience with profiles than with syndrome evidence. Indeed, close to three quarters of those claiming experience with some profiles claimed almost no experience with battering parent profile, gang member profile, and drug courier profile. In addition, close to half claimed little to no experience with the other profiles we listed: battering spouse profile, sexual predator profile, or child abuser profile. However, judges were more likely to claim experience with the child abuser profile than with any of the other profiles. Thus, with few exceptions (i.e., battered woman syndrome, rape trauma syndrome, posttraumatic stress disorder, child sex abuse accommodation syndrome, and child abuser profile), state judges are accumulating relatively little experience with syndrome and profile evidence and infrequently apply *Daubert* guidelines to such evidence.

A methodological qualifier is in order here. The general definitions of syndromes and profiles were given to each judge as part of the question in both the telephone survey and the mail survey. Given the two presentations of what was meant by profile and syndrome, we assumed that the judge understood the meaning of the words “psychological syndromes” (or “psychological profiles”) in the question stem for each specific syndrome or profile. In addition, because respondents could not be probed for clarification of their responses on the mail surveys for Part II, we erred on the side of inclusion for all such questions mainly because these judges could reread the definition of syndrome or profile if they were uncertain.

In addition, there are alternative hypotheses that need to be addressed. Some may argue that these findings do not refer to the understanding and application of the *Daubert* guidelines by judges but, rather, to the fact that the *Daubert* guidelines themselves are problematic. We have addressed some of these problematic issues above and elsewhere (Gatowski et al., 2001) and agree that the *Daubert* guidelines are contentious. The research reported herein further supports earlier findings (Gatowski et al., 2001) that judges do understand some of the less technical guidelines (i.e., general acceptance and peer review and publication) but not the more technical ones (i.e., falsifiability and error rate), and that they prefer general acceptance and qualifications of the expert as guidelines when determining the admissibility of psychological evidence.

Given that there is only one published empirical research report directly addressing judges’ understanding of the *Daubert* guidelines—specifically that only 6% and 4% of the 400 state trial court judges displayed a clear understanding of falsifiability and error rate, respectively (Gatowski et al., 2001)—and a very limited research base with respect to the application of the *Daubert* guidelines

(Dixon & Gill, 2002; Gatowski et al., 2001; Groscup et al., 2002; Groscup, Studebaker, Huss, O'Neil, & Penrod, 2000; Kovera & McAuliff, 2000; Krafka et al., 2002; Richardson et al., 1998; Risinger, 2000), this possible alternative explanation needs to be addressed in future research.

The research reported here addressed both the number of times admissibility of the syndrome or profile evidence was at issue and how often it was admitted or rejected by the judges. In addition, the research centered on what criteria judges were using, their understanding of the guidelines, and their correct application of them. The judges, interviewed post-*Daubert*, generally accepted their newly appointed gatekeeper role (Dobbin et al., 2002; Gatowski et al., 2001). Some might raise the issue of whether lawyers question error rate or falsifiability with respect to proffered evidence, but our data are independent of that issue (but see Kovera & McAuliff, 2002; Krafka et al., 2002). After all, since *Daubert*, it has become the judge's job as gatekeeper to examine the evidence's fit with the *Daubert* guidelines. Whether judges have the proper training and knowledge to do so is a different question (Dobbin et al., 2002; Gatowski et al., 2001; Kovera & McAuliff, 2000; Kovera, Russano, & McAuliff, 2002; Sanders, Diamond, & Vidmar, 2002, p. 152). Failure of lawyers to raise *Daubert* issues could be a possible alternative explanation if judges had not accepted their gatekeeper role. Judges who do address the admissibility of the evidence with *Daubert* in mind will likely find lawyers who try cases in their courtrooms following suit.[9]

Another possible explanation is that judges may be unwilling to apply the *Daubert* guidelines because their understanding of *Daubert*'s scope differs from that of our team of researchers. This alternative explanation is possible, given that *Daubert's* scope was not determined until *Kumho Tire Co. v. Patrick Carmichael* (1999), which was decided after these data were collected. Also, because *Daubert* was a federal case, many of these state trial court judges may not have considered *Daubert* applicable to expert testimony related to psychological syndrome and profile evidence and therefore relied on the more traditional general acceptance standard embodied in *Frye v. United States* (1923) (but also included in *Daubert*) to determine evidentiary reliability. Alternatively, by applying general acceptance, these state judges might appear to be applying *Daubert* even if they are not applying the more technical guidelines of error rate and falsifiability to determine the larger scientific validity issue as suggested by the *Daubert* court. Dixon and Gill (2002) found that although federal judges gradually began to apply *Daubert* to other types of evidence even before *Kumho* was decided, the proportion of challenged evidence found unreliable peaked first for physical science evidence. Future research should address state judges' application of *Daubert* to social and behavioral science evidence post-*Kumho*.

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[9] Another explanation might be that since *Daubert*, lawyers are simply not proffering this psychological evidence as much, thereby creating no need for judges to consider *Daubert* at all. Although Dixon and Gill's (2002) content analysis of federal district court opinions pre- and post-*Daubert* included only a small percentage of cases involving psychological testimony, their study provides some evidence that *Daubert* actually tightened judges' admissibility standards. Dixon and Gill suggest the idea that lawyers are becoming increasingly aware of this; thus, they may be choosing not to seek admissibility of syndromes and profiles as often, or their challenges to this evidence may be increasing when proffered by opponents. Recall, however, that we found a significant difference between *Daubert* and non-*Daubert* states with respect to experience with syndromes and profiles, suggesting that at least within the first 5 years after *Daubert* was decided, lawyers may have been proffering psychological syndrome and profile evidence more often, in keeping with the liberal thrust of *Daubert*. Note, however, that Dixon and Gill (Figure 10, p. 298) found that the proportion of challenged social and behavioral evidence found unreliable in federal civil cases did not increase after *Daubert* but remained fairly consistent during the 5 years following *Daubert*.

Related to the above idea that judges' understanding of *Daubert*'s scope might not apply to psychological syndrome and profile testimony is the criticism of Popper's approach (Popper, 1959) to defining science. It is true that the *Daubert* justices used a rather traditional view of science rejected by some contemporary philosophers of science (Farrell, 1994; Sanders, 1994; Schwartz, 1997; see also Chalmers, 1982; Feyerabend, 1978, 1981; Kuhn, 1970; Laudan, 1977 for a discussion about other philosophies of science). Some might argue that judges who do not apply *Daubert*'s falsifiability guideline may not be confused about the meaning of the *Daubert* guidelines. Instead, they may have difficulties operationalizing Popper's definition of falsifiability in legal contexts, or they may disagree with Popper's definition of science.

For example, it may be that once judges determine that the psychological syndrome or profile evidence has gained general acceptance in the relevant field as determined by peer review and publication or the decisions of other courts (i.e., precedent), judges simply do not bother with any of the other *Daubert* factors, especially falsifiability, simply because they do not think it is necessary. However, recall that Gatowski et al. (2001) reported that falsifiability and error rate were understood by few of the 400 judges who completed Part I, as compared with the large percentage of judges who clearly understood general acceptance and peer review and publication. In addition, some legal experts (Sanders et al., 2002) claim that *Daubert* asserted that general acceptance is not the sole test for admissibility and that general acceptance and peer review and publication, as indicia of reliability, are secondary to the direct assessment of scientific validity. Therefore, a possible alternative explanation may be that judges are not concerned with the two more technical factors of falsifiability and error rate because (a) they assume general acceptance and peer review and publication are proxies for scientific reliability and are sufficient factors for determining scientific validity, and (b) because they do not understand how to apply them.

Regardless of debates among philosophers of science, Popper's approach was embodied in the *Daubert* decision, specifically regarding falsifiability as outlined by Justice Blackman's quote: "The criterion of the scientific status of a theory is its falsifiability, or refutability, or testability" (*Daubert*, p. 2797). The justices were influenced by his arguments, as evidenced by the Court's announcement that evidentiary reliability—trustworthiness—is to be determined by scientific validity. None of the four guidelines has been rejected or superseded by subsequent Supreme Court decisions (i.e., *General Electric Co. v. Joiner,* 1997, or *Kumho Tire Co. v. Patrick Carmichael,* 1999), and the importance of testability continues to be accepted by many philosophers of science, even if they reject a strict Popperian falsifiability definition of science. Thus, Popper's notion of testability has become part of the law of the land via the *Daubert* trilogy, and no matter what the judge's bench philosophy of science may be, it is important to examine whether trial court judges understand and apply falsifiability and the other guidelines to proffered psychological evidence in order to exclude or include such evidence appropriately.[10] A large percentage of the judges reported that in cases in which psychological syndrome or profile evidence was at issue, such evidence was eventually admitted more often than it was excluded, suggesting that the falsifiability and error rate factors were likely not considered by the justices with respect to this evidence, especially because the judges did not demonstrate a clear understanding of these more technical factors.

In closing, we offer the comment that, although *Daubert* has been perceived as revolutionary by some commentators (Faigman, 2000; Richardson, 1994), it seems that there has not yet been a dramatic difference in the use of psychological testimony in American state trial courts. *Daubert* is changing certain types of litigation and may be shaping the way testimony is framed and managed prior to court (Dixon & Gill, 2002; Krafka et al., 2002), but as yet it does not appear to have had much impact on the use of psychological syndrome and profile evidence. Business as usual seems to be the order of the day, because the work of the courts needs to be accomplished regardless of the machinations of the Supreme Court and scholars about the meaning of *Daubert* and its progeny. Judges are relying on criteria and habits of analysis familiar to them (mainly *Frye v. United States*'s [1923] general acceptance standard, relevance, and qualifications and credibility of the expert) even as they struggle with new ideas foisted on them from above. In time, judges might begin to apply the *Daubert* guidelines to psychological syndrome and profile evidence and, in that event, the research reported here can provide a basis for comparison, especially for post-*Kumho Tire Co. v. Patrick Carmichael* (1999) research. Currently, it appears that *Daubert*'s influence on judicial admissibility decisions for such evidence is insignificant, leading us to conclude that one reason that psychology is still considered part of the "soft sciences" is that judges seldom hold the discipline to the same rigorous methodological standards as the "hard sciences." Until this is done, *Daubert*'s impact on the admissibility of psychological syndrome and profile evidence will remain negligible.

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[10] Although the issue of differing philosophies of science has been noted, so has judges' lack of understanding of the scientific meaning of falsifiability and error rates (Gatowski et al., 2001). Recall that this study was conducted pre-*Kumho Tire Co. v. Patrick Carmichael* (1999), the case that clarified *Daubert*'s application to technical and other specialized evidence as well as scientific evidence; thus, it seems likely that these judges who were interviewed prior to the 1999 *Kumho* decision were avoiding these concepts from *Daubert* altogether in some instances, using a "back door" approach to admitting controversial or questionable scientific evidence by saying the evidence was specialized rather than scientific.

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